

## **Species Protective Measures for Streambank Stabilization Projects**

1. Underlay stone with geotextile filter fabric, gravel filter blanket, or equivalent best available technology.
2. Rock should be dense, durable, equidimensional (not flat or thin), angular, and clean.
3. Rock size is dependent upon bank slope and water velocity. Larger rock should be used at the base and face of the slope.
4. Grade bank slope to a maximum 1.5:1.
5. Riprap should be keyed into the stream bed to ensure its stability and effectiveness.
6. When practical, do not operate motorized equipment in the water. Work from the top of the bank.
7. The in water portion of the project area should be enclosed by a floating silt curtain or other site-appropriate erosion control measures during construction to exclude fish and contain turbid (muddy) waters resulting from excavation, grading, and placement of fill materials.
8. Restore damaged areas, particularly bare erodible soils, to pre-work conditions.
9. Dispose of excavated materials in upland area to prevent sediment transport to streams.
10. Bioengineering solutions should be considered as a means to minimize riprap use.